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Ludmila Cherkasova

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EXAMINER

STACE, BRENT S

ART UNIT

PAPER NUMBER

2161

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,805

Applicant(s)

CHERKASOVA, LUDMILA

Examiner

Brent S. Stace

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. This communication is responsive to the amendment filed April 5th, 2006. Claims 1-34 are pending. In the amendment filed April 5th, 2006, Claims 1, 25, and 32 were amended, and Claims 1, 17, 23, 25, and 32 are independent Claims. The examiner acknowledges that no new matter was introduced and the claims are supported by the specification. This action is made FINAL.

Response to Arguments

2. Applicant's arguments filed April 5th, 2006 have been fully considered but they are not persuasive.

3. As to the applicant's arguments with respect to exemplary Claim 1 (including Claims 17, 23, 25, and 32) for the prior art allegedly not teaching or suggesting "exchanging subfiles among said plurality of recipients nodes of said first group such that each recipient node of said first group obtains all of said plurality of subfiles wherein at least one recipient node of said first group begins communicating a portion of its respective subfile that it is receiving from the first node to at least one other recipient node of said first group before the at least one recipient node fully receives its respective subfile" the examiner respectfully disagrees.

First, of the above limitations, "exchanging subfiles among said plurality of recipient nodes of said first group such that each recipient node of said first group

obtains all of said plurality of subfiles" was originally shown as being taught primarily by Zayas; specifically, Zayas col. 3, lines 35-39 (with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]). Since subfiles must be files themselves (also stated in from Chung, paragraph [0016]), especially considering that they are on file systems, "files" in the cited portion of the Zayas reference was combined with Chung to mean files or subfiles. Chung does not teach that every node in the first group gets all of the subfiles, however, replicating all of the files/subfiles on a volume between servers in Zayas accomplishes this limitation regardless of how it is achieved in Zayas. When the two references, Chung and Zayas, are combined, this limitation is obvious. Reasons as to why it is obvious are stated below and in the rejected Claim(s). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Next, of the above limitations, "wherein at least one recipient node of said first group begins communicating a portion of its respective subfile that it is receiving from the first node to at least one other recipient node of said first group before the at least one recipient node fully receives its respective subfile" was originally shown as being taught primarily by Chung; specifically, Chung, paragraph [0016]. This paragraph teaches that a user can receive data in a *streaming* fashion, in *parallel* and *simultaneously* from one or more servers. Chung also states that the invention is on a peer-to-peer network (Chung, paragraph [0021] included from the limitation met above

that ties into the present limitation by the “wherein” word of the present limitation) where, by definition, client computers act as servers. Also, since Chung transfers in a streaming fashion, streaming by definition is transmitting data in real time and delivering information in a steady flow that the recipient can access the file being transmitted. Therefore, with the subfiles going to a first user in Chung from a first user request, a second user request from a second user will/can be served from the first user since the definition of streaming and peer-to-peer enable the first user to act as a server serving data in real time (as it is being received). In fact, Chung, even makes reservations incase data can not be received/streamed fast enough or at all from a server/user in Chung, paragraph [0017].

4. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, motivation to combine the references is found either in the references themselves. Subfiles must be files themselves (also stated in from Chung, paragraph [0016]). Zayas's “files,” when combined with Chung, is Chung's files and subfiles. Chung's invention speeds up the delivery of data by receiving data (as subfiles) from multiple servers instead of the traditional method of receiving the full file from one server (Chung, paragraph [0017]).

Chung, paragraph [0017] also provides for each subfile residing on more than one server (which encompasses all the servers) so that if a server is slow or unavailable, the redundancy in place will still enable a speedy delivery of data from another available server. When all the subfiles reside on all the servers, this effectively is replicating the full file across all the servers. Zayas explicitly replicates volumes of files/subfiles to a different set of servers. Zayas and Chung are analogous art because they both deal with replicating files.

5. As to the applicant's arguments with respect to Claim 23 for the prior art allegedly not teaching or suggesting "said origin node operable to distribute all of said plurality of subfiles to said recipient nodes, wherein a different subfile is distributed from said origin node to each of said recipient nodes" the examiner respectfully disagrees. The first limitation (not emphasized and not primarily argued) does not use Bushmitch in the rejection, so the argument that Bushmitch does not teach that limitation is invalid. The emphasized limitation (the limitation primarily argued) was originally shown as being taught primarily by Bushmitch; specifically Bushmitch, col. 4, lines 1-10 with Bushmitch, Fig. 2. Bushmitch clearly shows in Fig. 2 that nodes 12a-12e have all each received different substreams/subfiles (X_1 - X_8) of stream/file X.

6. Additionally, with regards to the Applicant's argument that the use of the term "approximately" is of less criticality, this is an irrelevant argument. Whether or not "approximately" is of any criticality, this rejection needs to be addressed to further prosecution. The examiner thinks it is in the best interest of the Applicant to bring any claim discrepancies to the attention of the Applicant so as to conduct compact

prosecution and submit to the Applicant a high quality Office action. Also, since the term "approximately" has been shown to be of less criticality to the Applicant, a suggestion to amend the claim around the 35 U.S.C. 112 rejection would be to remove the word "approximately" from Claim 4.

7. The other claims argued merely because of a dependency on a previously argued claim(s) in the arguments presented to the examiner, filed April 5th, 2006, are moot in view of the examiner's interpretation of the claims and art and are still considered rejected based on their respective rejections from the first Office action (recited again below).

Response to Amendment

Information Disclosure Statement

8. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. For example, page 14 of the specification, paragraph 46 recites "see e.g. Y. Chu, S. Rao, S. Seshan, H. Zhang, "Enabling Conferencing Applications on the Internet Using an Overlay multicast architecture", Proc. of ACM SIGCOMM, 2001" that is not included in the IDS.

Applicant's cooperation is requested in finding any other references mentioned in the specification that are not included in an IDS.

Specification

9. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Regarding claim 4, the phrase "approximately" on line 2 renders the scope of the claim(s) unascertainable. The specification as the paragraphs cited by the applicant shows no standard for measuring the degree for the use of the term "approximately." In fact, the specification in paragraph 38 shows how the subfiles are only equal, not approximately equal.

There appears to be an interpretation of the claim that one of ordinary skill in the art could recognize (as the applicants appear to be pointing out in the remarks),

however, without support in the specification for a standard for measuring the degree of “approximately” and without exactly/clearly pointing out what the interpretation of the claim is that one of ordinary skill in the art could recognize, Claim 4 still remains rejected under 35 U.S.C. 112 as being unclear on what the term “approximately” means.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1, 3-16, 17, 19-22, 25, 26, and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0088380 (Chung et al.) in view of U.S. Patent No. 6,477,583 (Zayas et al.).

15. For **Claim 1**, Chung teaches: “A method comprising:

- partitioning a file into a plurality of subfiles; [Chung, paragraph [0016]]
- distributing the plurality of subfiles from a first node to a first group comprising a plurality of recipient nodes, wherein at least one subfile is distributed from the first node to each recipient node of said first group but no individual recipient node receives all of said plurality of subfiles; [Chung, paragraphs [0016]-[0017] with Chung, paragraph [0009]] and

- wherein at least one recipient node of said first group begins communicating a portion of its respective subfile that it is receiving from the first node to at least one other recipient node of said first group before the at least one recipient node fully receives its respective subfile" [Chung, paragraph [0016]]."

Chung discloses the above limitations but does not expressly teach:

- "exchanging subfiles among said plurality of recipient nodes of said first group such that each recipient node of said first group obtains all of said plurality of subfiles."

With respect to Claim 1, an analogous art, Zayas, teaches:

- "exchanging subfiles among said plurality of recipient nodes of said first group such that each recipient node of said first group obtains all of said plurality of subfiles" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Zayas with Chung because both inventions are directed towards file replication.

Zayas's invention would have been expected to successfully work well with Chung's invention because both inventions use computers connected over a network. Chung discloses the splitting and redundant storage on multiple servers comprising replicating subfiles across different servers on a network and the user downloading the different subfiles in parallel and simultaneously, however Chung does not expressly

disclose that this operation is performed across all of the servers in the group of servers so that all the servers, much like the end user of Chung, has all of the subfiles. Zayas discloses an infrastructure for supporting file replications comprising a network of server computers replicating files.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the network of server computers replicating files from Zayas and install it into the method of Chung, thereby offering the obvious advantage of having the servers in Chung's invention be the file replicating servers of Zayas's network of server computers so that bandwidth may be saved during transfers between servers and end users, and so that a higher degree of redundancy is achieved between the servers. Adding Zayas to Chung makes the servers of Chung replicate between each other.

16. **Claim 3** can be mapped to Chung (as modified by Zayas) as follows: "The method of claim 1 wherein said partitioning comprises."

Chung (as modified by Zayas) discloses the above limitation but does not expressly teach:

- "partitioning said file into said plurality of subfiles corresponding in number to a number of said recipient nodes in said first group."

However, with respect to Claim 3, Chung (as modified by Zayas) teaches:

- "partitioning said file into said plurality of subfiles corresponding in number to a number of said recipient nodes in said first group" [Chung, paragraph [0032]].

Chung (as modified by Zayas) does not expressly teach "partitioning said file into said plurality of subfiles corresponding in number to a number of said recipient nodes in

said first group,” but, in the citation mapping above, Chung admits the number of subfiles is arbitrary in his invention. So, it is understood that the number of subfiles could correspond in number to a number of said recipient nodes in said first group. Chung clearly teaches that the number of subfiles in his invention can be greater or smaller than the exemplified number making the number of subfiles merely a design choice. Therefore, Chung's invention is further modified to have the file partitioned into subfiles corresponding in number to a number of said recipient nodes in said first group thereby offering the obvious advantage of promoting an equal distribution of computer resources (the file).

17. **Claim 4** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 wherein said partitioning further comprises:

- partitioning said file into said plurality of subfiles that are each approximately equal in size” [Chung, paragraph [0032]].

18. **Claim 5** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 further comprising:

- determining a number of said recipient nodes to include in said first group” [Chung, paragraph [0033]].

19. **Claim 6** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 5 wherein said determining comprises:

- determining a suitable number of concurrent communication connections that can be used for communication of information between one of the nodes and a

plurality of the other nodes; [Chung, paragraph [0033] with Chung, paragraphs [0016]-[0017]] and

- determining said number of recipient nodes to include in said first group as corresponding in number to said number of concurrent communication connections” [Chung, paragraph [0033]].

20. **Claim 7** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 wherein said distributing comprises:

- distributing the plurality of subfiles to said plurality of recipient nodes of said first group concurrently” [Chung, paragraphs [0016]-[0017]].

21. **Claim 8** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 wherein exchanging subfiles among said plurality of recipient nodes of said first group further comprises:

- each of said plurality of recipient nodes establishing concurrent communication connections to every other recipient node of said first group” [Chung, paragraphs [0016]-[0017] with Chung, paragraph [0033]].

22. **Claim 9** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 wherein said first node and said plurality of recipient nodes of said first group each comprise a server computer” [Zayas, col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017]].

23. **Claim 10** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 9 wherein said first node and said plurality of recipient nodes are

distributed server computers in a Content Distribution Network (CDN)" [Chung, paragraph [0031]].

24. **Claim 11** can be mapped to Chung (as modified by Zayas) as follows: "The method of claim 1 further comprising:

- said first group of recipient nodes communicating said file to a second group comprising a plurality of recipient nodes" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

25. **Claim 12** can be mapped to Chung (as modified by Zayas) as follows: "The method of claim 11 further comprising:

- each recipient node of said first group communicating a subfile to every recipient node of said second group such that said recipient nodes of said second group each receive all of said plurality of subfiles" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

26. **Claim 13** can be mapped to Chung (as modified by Zayas) as follows: "The method of claim 11 further comprising:

- each recipient node of said first group communicating the subfile that it receives from said first node to at least one node of the second group" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

27. **Claim 14** can be mapped to Chung (as modified by Zayas) as follows: "The method of claim 13 wherein each recipient node of said first group begins communicating the subfile that it is receiving from said first node to said at least one

node of the second group before fully receiving the subfile from the first node” [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

28. **Claim 15** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 1 further comprising:

- logically organizing a plurality of groups of recipient nodes into a primary multicast tree, [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]] wherein the groups of the primary multicast tree are logically organized sequentially such that intermediate groups of the primary multicast tree each communicate the file to a next sequential group of the primary multicast tree and wherein each intermediate group begins to communicate the file to a next sequential group of the primary multicast tree before fully receiving the file from a preceding group of the primary multicast tree” [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

29. **Claim 16** can be mapped to Chung (as modified by Zayas) as follows: “The method of claim 15 further comprising:

- further logically organizing a plurality of groups of recipient nodes into a secondary multicast tree, [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]] wherein at least one group of the primary multicast tree begins communicating the file to at least one group of the secondary multicast tree after the group of the primary multicast tree has fully

received the file" [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

30. **Claims 17 and 19-22** encompass substantially the same scope of the invention as that of Claims 1, 3, 7, 11, and 14, respectfully, in addition to a system and some means for performing the method steps of Claims 1, 3, 7, 11, and 14, respectfully. Therefore, Claims 17 and 19-22 are rejected for the same reasons as stated above with respect to Claims 1, 3, 7, 11, and 14, respectfully.

31. **Claims 25, 26 and 28-31** encompass substantially the same scope of the invention as that of Claims 1, 1, 7, 8, 11, and 14, respectfully, in addition to a method and some steps for performing the method steps of Claims 1, 1, 7, 8, 11, and 14, respectfully. Therefore, Claims 25, 26, and 28-31 are rejected for the same reasons as stated above with respect to Claims 1, 1, 7, 8, 11, and 14, respectfully.

32. Claims 2, 18, 23, 24, 27, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0088380 (Chung et al.) in view of U.S. Patent No. 6,477,583 (Zayas et al.), further in view of U.S. Patent No. 5,928,331 (Bushmitch).

33. For **Claim 2**, Chung (as modified by Zayas) teaches: "The method of claim 1 wherein said distributing comprising."

Chung (as modified by Zayas) discloses the above limitation but does not expressly teach:

- “distributing from the first node a different subfile to each of said recipient nodes of said first group.”

With respect to Claim 2, an analogous art, Bushmitch, teaches:

- “distributing from the first node a different subfile to each of said recipient nodes of said first group” [Bushmitch, col. 4, lines 1-10 with Bushmitch, Fig. 2].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bushmitch with Chung (as modified by Zayas) because both inventions are directed towards multicasting files.

Bushmitch's invention would have been expected to successfully work well with Chung (as modified by Zayas)'s invention because both inventions use computers connected through a network. Chung (as modified by Zayas) discloses a the splitting and redundant storage on multiple servers comprising file replication across servers, however Chung (as modified by Zayas) does not expressly disclose distributing a different subfile to each of said recipient nodes. Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the distribution of a different subfile to each of said recipient nodes.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the distribution architecture from Bushmitch and install it into the method of Chung (as modified by Zayas), thereby offering the obvious advantage of increasing the parallel transmissions of Chung (as modified by Zayas) during distribution and end user downloading.

34. **Claim 18** encompasses substantially the same scope of the invention as that of Claim 2, in addition to a system and some means for performing the method steps of Claim 2. Therefore, Claim 18 is rejected for the same reasons as stated above with respect to Claim 2.

35. For **Claim 23**, Chung teaches: "A system [Chung, paragraph [0028]] comprising:

- an origin node operable to partition a file into a plurality of subfiles, [Chung, paragraph [0016]] wherein said plurality of subfiles correspond in number to a number of recipient nodes in a first group to which said file is to be distributed; [Chung, paragraph [0032]]
- said origin node operable to distribute all of said plurality of subfiles to said recipient nodes, [Chung, paragraphs [0016]-[0017] with Chung, paragraph [0009]] and
- wherein at least one recipient node is operable to begin communicating a portion of its respective subfile that it is receiving from the origin node to at least one other recipient node before the at least one recipient node fully receives its respective subfile from the origin node" [Chung, paragraph [0016]].

Since Chung admits the number of subfiles is arbitrary in his invention, it is understood that the number of subfiles could correspond in number to a number of said recipient nodes in said first group. Chung clearly teaches that the number of subfiles in his invention can be greater or smaller than the exemplified number, and is merely a design choice. Therefore, Chung's invention is modified to have the file partitioned into

subfiles corresponding in number to a number of said recipient nodes in said first group thereby offering the obvious advantage of promoting an equal distribution of computer resources (the file).

Chung discloses the above limitations but does not expressly teach:

- “wherein a different subfile is distributed from said origin node to each of said recipient nodes; and
- said recipient nodes operable to exchange their respective subfiles received from said origin node such that each recipient node obtains all of said plurality of subfiles.”

With respect to Claim 23, an analogous art, Zayas, teaches:

- “said recipient nodes operable to exchange their respective subfiles received from said origin node such that each recipient node obtains all of said plurality of subfiles” [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

With respect to Claim 23, an analogous art, Bushmitch, teaches:

- “wherein a different subfile is distributed from said origin node to each of said recipient nodes; [Bushmitch, col. 4, lines 1-10 with Bushmitch, Fig. 2]

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Zayas and Bushmitch with Chung because the inventions are directed towards networking computers together for file replication or multicasting.

Zayas’s and Bushmitch’s invention would have been expected to successfully work well with Chung’s invention because the inventions use computer networks.

Chung discloses the splitting and redundant storage on multiple servers comprising replicating subfiles across different servers on a network and the user downloading the different subfiles in parallel and simultaneously, however Chung does not expressly disclose that this operation is performed across all of the servers in the group of servers so that all the servers, much like the end user of Chung, has all of the subfiles or distributing a different subfile to each of said recipient nodes. Zayas discloses an infrastructure for supporting file replications comprising a network of server computers replicating files. Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the distribution of a different subfile to each of said recipient nodes.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the network of server computers replicating files from Zayas and the distribution architecture from Bushmitch and install them into the system of Chung, thereby offering the obvious advantage of having the servers in Chung's invention be the file replicating servers of Zayas's network of server computers so that bandwidth may be saved during transfers between servers and end users, and so that a higher degree of redundancy is achieved between the servers. Adding Zayas to Chung makes the servers of Chung replicate between each other. Bushmitch offers the obvious advantage of increasing the parallel transmissions of Chung (as modified by Zayas) during distribution and end user downloading.

36. **Claim 24** can be mapped to Chung (as modified by Zayas and Bushmitch) as follows: "The system of claim 23 wherein the origin node is operable to distribute the

plurality of subfiles to said number of recipient nodes of said first group concurrently”
[Chung, paragraphs [0016]-[0017]].

37. **Claim 27** encompasses substantially the same scope of the invention as that of Claim 2, in addition to a method and some steps for performing the method steps of Claim 2. Therefore, Claim 27 is rejected for the same reasons as stated above with respect to Claim 2.

38. For **Claim 32**, Chung teaches: “A method comprising:

- distributing a plurality of descriptors of a file from a first node to a first group comprising a plurality of recipient nodes, wherein at least one descriptor is distributed from the first node to each recipient node of said first group but not all of said plurality of descriptors are distributed from the first node to any of the recipient nodes of said first group; and
- wherein at least one recipient node of said first group begins communicating a portion of its respective descriptor that it is receiving from the first node to at least one other recipient node of said first group before the at least one recipient node fully receives its respective descriptor from the first node”
[Chung, paragraph [0016]].

Chung discloses the above limitations but does not expressly teach:

- “encoded with multiple description coding (MDC)
- said plurality of recipient nodes of said first group exchanging their respective descriptors such that each recipient node of said first group obtains all of said plurality of descriptors”

With respect to Claim 32, an analogous art, Zayas, teaches:

- “said plurality of recipient nodes of said first group exchanging their respective descriptors such that each recipient node of said first group obtains all of said plurality of descriptors [Zayas col. 3, lines 35-39 with Chung, paragraphs [0016]-[0017] and Chung, paragraph [0021]].

With respect to Claim 32, an analogous art, Bushmitch, teaches:

- “encoded with multiple description coding (MDC)” [Bushmitch, col. 3, lines 31-46].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Zayas and Bushmitch with Chung because the inventions are directed towards networking computers together for file replication or multicasting.

Zayas’s and Bushmitch’s invention would have been expected to successfully work well with Chung’s invention because the inventions use computer networks. Chung discloses the splitting and redundant storage on multiple servers comprising replicating subfiles across different servers on a network and the user downloading the different subfiles in parallel and simultaneously, however Chung does not expressly disclose that this operation is performed across all of the servers in the group of servers so that all the servers, much like the end user of Chung, has all of the subfiles or that MDC is used. Zayas discloses an infrastructure for supporting file replications comprising a network of server computers replicating files. Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the use of MDC.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the network of server computers replicating files from Zayas and MDC from Bushmitch and install them into the system of Chung, thereby offering the obvious advantage of having the servers in Chung's invention be the file replicating servers of Zayas's network of server computers so that bandwidth may be saved during transfers between servers and end users, and so that a higher degree of redundancy is achieved between the servers. Adding Zayas to Chung makes the servers of Chung replicate between each other. Bushmitch offers the obvious advantage of providing a high quality of service and make the invention work with existing real time data transport.

39. **Claim 33** can be mapped to Chung (as modified by Zayas and Bushmitch) as follows: "The method of claim 32 wherein said distributing comprising:

- distributing from the first node a different descriptor to each of said recipient nodes of said first group" [Bushmitch, col. 4, lines 1-10 with Bushmitch, Fig. 2].

Chung (as modified by Zayas and Bushmitch) discloses a the splitting and redundant storage on multiple servers comprising file replication across servers, however Chung (as modified by Zayas and Bushmitch) does not expressly disclose distributing a different subfile to each of said recipient nodes. Bushmitch discloses a distributed internet protocol-based real-time multimedia streaming architecture comprising the distribution of a different subfile to each of said recipient nodes.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the distribution architecture from Bushmitch and install it into the method of Chung (as modified by Zayas and Bushmitch), thereby offering the obvious

advantage of increasing the parallel transmissions of Chung (as modified by Zayas and Bushmitch) during distribution and end user downloading. This further modifies the previous combination of Chung (as modified by Zayas and Bushmitch).

40. **Claim 34** can be mapped to Chung (as modified by Zayas and Bushmitch) as follows: "The method of claim 32 wherein said distributing comprises: distributing the plurality of descriptors to said plurality of recipient nodes of said first group concurrently" [Chung, paragraphs [0016]-[0017]].

41. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

42. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 9am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brent Stace

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